

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A heat curable extruded adhesive laminate system, said system comprising:

a fabric;

an extruded adhesive having a latent thermally activated curing component comprising a uretdione, said extruded adhesive being coated onto the fabric; and

a thermoplastic resin, said thermoplastic resin being coated onto the extruded adhesive, thereby forming a the heat curable extruded adhesive laminate having a layer of fabric, a layer of adhesive, and a layer of thermoplastic resin.

2. (Currently Amended) A heat curable extruded adhesive laminate system, according to claim 1, said system further comprising heating at least a portion of two or more panels of the heat curable extruded adhesive laminate to a temperature from about 260°F to about 350°F in a compression press, thereby forming collapsible tanks.

3. (Original) The heat curable extruded adhesive laminate system, as claimed in claim 1, wherein said extruded adhesive is comprised of a thermoplastic polyurethane with pendant hydroxyl groups.

4. (Original) The heat curable extruded adhesive laminate system, as claimed in claim 3, wherein said thermoplastic resin is a thermoplastic polyurethane resin.

5. (Original) The heat curable extruded adhesive laminate system, as claimed in claim 4, wherein said thermoplastic polyurethane with pendant hydroxyl groups has a medium to a high level of crystallinity.

6. (Original) The heat curable extruded adhesive laminate system, as claimed in claim 5, wherein the uretdione is a dimer of a diisocyanate, a multi-uretdione adduct or a combination thereof.

7. (Currently Amended) The patch repair system, as claimed in claim 6, wherein the blocked isocyanate is a uretdione is selected from the group consisting of dimers of toluene diisocyanate (TDI), methylene diisocyanate (MDI), xylene diisocyanate (XDI), isophorone diisocyanate (IPDI), hydrogenated methylene diisocyanate (H₁₂MDI), and hexamethylene diisocyanate (HMDI).

8. (Currently Amended) A heat curable extruded adhesive laminate system, according to claim 1, wherein the extruded adhesive with a latent thermally activated curing component is further comprised of a cross-linking enhancer.

9. (Original) The heat curable extruded adhesive laminate system, as claimed in claim 8, wherein the cross-linking enhancer is a compound with at least two hydroxyl groups.

10. (Currently Amended) The heat curable extruded adhesive laminate system, as claimed in claim 9, wherein the cross-linking enhancer is selected from the group consisting of: a hydroxyalkylamide; ~~pentaerythrityl~~; ~~mono, di and tri alkanol amines~~; glycols; abitol;

butylene glycol; cyclohexanedimethanol; diethylene glycol; dipentaerythritol; dipropylene glycol; glycerine; hexylene glycol; hydrogenated Bisphenol A; methyl 1,2 propanediol; neopentylglycol; propylene glycol; sorbitol; triethylene glycol; trimethylolpropane; tripentaerythritol, alkoxy and hydroxyl alkoxy cellulose, simple sugars like fructose, sucrose, glucose and starches.

11. (Currently Amended) A heat curable extruded adhesive laminate system, according to claim 1, wherein the extruded adhesive with a latent thermally activated curing component is further comprised of a hydrolytic stabilizer.

12. (Currently Amended) The heat curable extruded adhesive laminate system for producing collapsible tanks, as claimed in claim 11, wherein the hydrolytic stabilizer is selected from the group consisting of masterbatches of bis(2,6-di-2-propylphenyl)carbodiimide, carbodiimides polycarbodiimide and epoxidized soy bean oil.

13. (Original) The heat curable extruded adhesive laminate system, as claimed in claim 1, wherein the thermoplastic resin is compounded to include other additives such as reinforcing fibers, extenders, fillers, antioxidants, UV stabilizers, thermal stabilizers, flame retardants, glass beads, colorants, antimicrobial agents, dyes, pigments, processing aides (i.e. waxes, fluorinated compounds, silicone compounds, surfactants, polymeric processing aides), density modifiers such as phenolic beads, desiccants, buffers, and IR absorbent compounds to facilitate heating (i.e. carbon blacks, graphite, metal oxides).

14. (Original) The heat curable extruded adhesive laminate system, as claimed in claim 1, wherein the said extruded adhesive is further compounded to include other additives such as reinforcing fibers, extenders, antioxidants, UV stabilizers, thermal stabilizers, flame retardants, fillers, glass beads, colorants, antimicrobial agents, dyes, pigments, processing aides (i.e. waxes, fluorinated compounds, silicone compounds, surfactants, polymeric processing aides), density modifiers such as phenolic beads, desiccants, buffers, and IR absorbent compounds to facilitate heating (i.e. carbon blacks, graphite, metal oxides).

15. (Currently Amended) A one pass heat curable extruded adhesive laminate system, said system comprising:

a fabric;
an extruded mixture comprised of a thermoplastic resin, a thermoplastic polyurethane adhesive having pendant hydroxyl groups, and a latent thermally activated curing component; wherein said extruded mixture is coated onto the fabric, thereby forming the a one pass heat curable extruded adhesive laminate.

16. (Currently Amended) A one pass heat curable extruded adhesive laminate system, according to claim 15, said one pass system further comprising heating at least a portion of two or more panels of the one pass heat curable extruded adhesive laminate to a temperature from about 260°F to about 350° F in a compression press, thereby forming collapsible tanks.

17. (Original) The one pass heat curable extruded adhesive laminate system, as claimed in claim 1, wherein said extruded adhesive is comprised of a thermoplastic polyurethane with pendant hydroxyl groups.

18. (Original) The one pass heat curable extruded adhesive laminate system, as claimed in claim 17, wherein said thermoplastic resin is a thermoplastic polyurethane resin.

19. (Original) The one pass heat curable extruded adhesive laminate system, as claimed in claim 18, wherein said thermoplastic polyurethane with pendant hydroxyl groups has a medium to a high level of crystallinity.

20. (Currently Amended) The one pass heat curable extruded adhesive laminate system, as claimed in claim 19, wherein the latent thermally activated curing component is a uretdione ~~is a dimer of a diisocyanate, a multi-uretdione adduct or a combination thereof.~~

21. (Currently Amended) The patch repair system, as claimed in claim 20, wherein the uretdione is selected from the group consisting of dimers of toluene diisocyanate (TDI), methylene diisocyanate (MDI), xylene diisocyanate (XDI), isophorone diisocyanate (IPDI), hydrogenated methylene diisocyanate (H₁₂MDI), and hexamethylene diisocyanate (HMDI).

22. (Currently Amended) A one pass heat curable extruded adhesive laminate system, according to claim 15, wherein the extruded adhesive with a latent thermally activated curing component is further comprised of a cross-linking enhancer.

23. (Original) The one pass heat curable extruded adhesive laminate system, as claimed in claim 22, wherein the cross-linking enhancer is a compound with at least two hydroxyl groups.

24. (Currently Amended) The one pass heat curable extruded adhesive laminate system, as claimed in claim 23, wherein the cross-linking enhancer is selected from the group consisting of: a hydroxyalkylamide; ~~pentaerythritols; mono, di and tri alkanol amines;~~ glycols; abitol; butylene glycol; cyclohexanedimethanol; diethylene glycol; dipentaerythritol; dipropylene glycol; glycerine; hexylene glycol; hydrogenated Bisphenol A; methyl 1,2 propanediol; neopentylglycol; propylene glycol; sorbitol; triethylene glycol; trimethylolpropane; tripentaerythritol, alkoxy and hydroxyl alkoxy cellulose, simple sugars like fructose, sucrose, glucose and starches.

25. (Currently Amended) A one pass heat curable extruded adhesive laminate system, according to claim 15, wherein the extruded adhesive with a latent thermally activated curing component is further comprised of a hydrolytic stabilizer.

26. (Currently Amended) The one pass heat curable extruded adhesive laminate system, as claimed in claim 25, wherein the hydrolytic stabilizer is selected from the group consisting of masterbatches of bis(2,6-di-2-propylphenyl)carbodiimide, carbodiimides, polycarbodiimide and epoxidized soy bean oil.

27. (Original) The one pass heat curable extruded adhesive laminate system, as claimed in claim 15, wherein the thermoplastic resin is compounded to include other additives such as reinforcing fibers, fillers, antioxidants, UV stabilizers, thermal stabilizers, flame retardants, glass beads, colorants, antimicrobial agents, dyes, pigments, processing aides (i.e. waxes, fluorinated compounds, silicone compounds, surfactants, polymeric processing aides),

density modifiers such as phenolic beads, desiccants, buffers, and IR absorbent compounds to facilitate heating (i.e. carbon blacks, graphite, metal oxides).

28. (Original) The one pass heat curable extruded adhesive laminate system, as claimed in claim 15, wherein the said extruded adhesive is further compounded to include other additives such as reinforcing fibers, fillers, antioxidants, UV stabilizers, thermal stabilizers, flame retardants, glass beads, colorants, antimicrobial agents, dyes, pigments, processing aides (i.e. waxes, fluorinated compounds, silicone compounds, surfactants, polymeric processing aides), density modifiers such as phenolic beads, desiccants, buffers, and IR absorbent compounds to facilitate heating (i.e. carbon blacks, graphite, metal oxides).

29. (Currently Amended) The heat curable extruded adhesive laminate system, as claimed in claim 10, wherein the hydroxyalkylamide hydroxyalkyamide is N,N,N',N'-tetrakis(2-hydroxyethyl)adipamide, or N,N,N',N'-tetrakis(2-hydroxypropyl)adipamide.

30. (Currently Amended) The heat curable extruded adhesive laminate system, as claimed in claim 29, wherein the hydroxyalkylamide hydroxyalkyamide is combined with triglycidyl isocyanurate.

31. (Currently Amended) The one pass heat curable extruded adhesive laminate system, as claimed in claim 24, wherein the hydroxyalkylamide hydroxyalkyamide is N,N,N',N'-tetrakis(2-hydroxyethyl)adipamide, or N,N,N',N'-tetrakis(2-hydroxypropyl)adipamide.

32. (Currently Amended) The one pass heat curable extruded adhesive laminate system, as claimed in claim 31, wherein the hydroxyalkylamide hydroxyalkylamide is combined with triglycidyl isocyanurate.

33. (Canceled)

34. (Canceled)

35. (Currently Amended) A heat curable co-extruded adhesive laminate system, said system comprising:

a fabric;

a co-extruded adhesive having a latent thermally activated curing component comprising a uretdione, said extruded adhesive being coated onto the fabric; and

a co-extruded thermoplastic polyurethane resin, said thermoplastic polyurethane resin being extruded adjacent to the co-extruded adhesive, thereby forming the a heat curable extruded adhesive laminate having a layer of fabric, a layer of adhesive, and a layer of thermoplastic resin.

36. (Currently Amended) A heat curable co-extruded adhesive laminate system, according to claim 1, said system further comprising heating at least a portion of two or more panels of the heat curable extruded adhesive laminate to a temperature from about 260°F to about 350°F in a compression press, thereby forming collapsible tanks.

37. (Original) A heat curable co-extruded adhesive laminate system, as claimed in claim 36, wherein following heating, there are seams formed which have a strength that exceeds the minimum acceptable performance of 25 lbs/in, after being immersed in water and /or fuel at 160° F for six weeks.

38. (Original) A heat curable adhesive laminate system, as claimed in claim 2, wherein following heating, there are seams formed which have a strength that exceeds the minimum acceptable performance of 25 lbs/in, after being immersed in water and /or fuel at 160°F for six weeks.

39. (Original) A one pass heat curable extruded adhesive laminate system, as claimed in claim 16, wherein following heating, there are seams formed which have a strength that exceeds the minimum acceptable performance of 25 lbs/in, after being immersed in water and /or fuel at 160° F for six weeks.